

(iii) NO and NO₂ in purified nitrogen (the amount of NO₂ in this calibration gas must not exceed 5 percent of the NO content).

(iv) Oxygen in purified nitrogen.

(v) CO₂ in purified nitrogen.

(vi) Methane in purified synthetic air.

(2) The calibration gases in paragraph (c)(1) of this section must be traceable to within one percent of NIST gas standards or other gas standards we have approved. Span gases in paragraph (c)(1) of this section must be accurate to within two percent of true concentration, where true concentration refers to NIST gas standards, or other gas standards we have approved. Record concentrations of calibration gas as volume percent or volume ppm.

(3) You may use gases for species other than those in paragraph (c)(1) of this section (such as methanol in air gases used to determine response factors), as long as they meet the following criteria:

(i) They are traceable to within ± 2 percent of NIST gas standards or other standards we have approved.

(ii) They remain within ± 2 percent of the labeled concentration. Show this by measuring quarterly with a precision of ± 2 percent (two standard deviations) or by using another method we approve. You may take multiple measurements. If the true concentration of the gas changes by more than two percent, but less than ten percent, you may relabel the gas with the new concentration.

(4) You may generate calibration and span gases using precision blending devices (gas dividers) to dilute gases with purified nitrogen or with purified synthetic air. Make sure the mixing device produces a concentration of blended calibration gases that is accurate to within ± 1.5 percent. To do so, you must know the concentration of primary gases used for blending to an accuracy of at least ± 1 percent, traceable to NIST gas standards or other gas standards we have approved. For each calibration incorporating a blending device, verify the blending accuracy between 15 and 50 percent of full scale. You may optionally check the blending device with an instrument that is linear by nature (for example, using NO

gas with a CLD). Adjust the instrument's span value with the span gas connected directly to it. Check the blending device at the used settings to ensure that the difference between nominal values and measured concentrations at each point stays within ± 0.5 percent of the nominal value.

(d) *Oxygen interference gases.* Gases to check oxygen interference are mixtures of oxygen, nitrogen, and propane. The oxygen concentration must be 20–22 percent and the propane concentration must be 50–90 percent of the maximum value in the most typically used FID range. Independently measure the concentration of total hydrocarbons plus impurities by chromatographic analysis or by dynamic blending.

Subpart D—Analyzer and Equipment Calibrations

§ 1065.301 Overview.

Calibrate all analyzers and equipment at least annually, but make the actual frequency consistent with good engineering judgment. We may establish other guidelines as appropriate. Calibrate following specifications in one of three sources:

(a) Recommendations from the manufacturer of the analyzers or equipment.

(b) 40 CFR part 86, subpart F or subpart N.

(c) 40 CFR part 90, subparts D and E, as applicable.

§ 1065.305 International calibration standards.

(a) You may ask to use international standards for calibration.

(b) You need not ask for approval to use standards that have been shown to be traceable to NIST standards.

§ 1065.310 CVS calibration.

Use the procedures of 40 CFR 86.1319–90 to calibrate the CVS.

[69 FR 39261, June 29, 2004]

EFFECTIVE DATE NOTE: At 69 FR 39261, June 29, 2004, text was added to § 1065.310, effective Aug. 30, 2004.

§ 1065.315 Torque calibration.

You must use one of two techniques to calibrate torque: the lever-arm